



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,470	07/03/2002	Carl Johan Hoijer	P02,0085	4665
26574	7590	04/21/2005	EXAMINER	
SCHIFF HARDIN, LLP PATENT DEPARTMENT 6600 SEARS TOWER CHICAGO, IL 60606-6473			FAULCON JR, LENWOOD	
			ART UNIT	PAPER NUMBER
			3762	

DATE MAILED: 04/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/070,470

Applicant(s)

HOIJER ET AL.

Examiner

Lenwood Faulcon, Jr.

Art Unit

3762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2002.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 14-21 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 14-18, 20 and 21 is/are rejected.  
7) ☒ Claim(s) 19 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/3/2002.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 14-18 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kieval et al. (U.S. Patent No. 5,626,620) in view of Lu et al. (U.S. Patent No. 5,391,192).

Kieval et al. teaches of a dual chamber pacing system and method with continual adjustment of the AV escape interval so as to maintain optimized ventricular pacing for treating cardiomyopathy, in which this system is based on the observation that when a ventricular pace pulse is delivered with a timing that results in a fusion or near fusion beat (col. 3 lines 12-16). Kieval et al. also teaches that the pacemaker system detects fusion beats and monitors the number of fusion beats, which occur over a predetermined time interval, or number of pacemaker cycles, and determines whether the percentage is acceptable (col. 3 lines 21-25). Kieval et al. further teaches that if the pacemaker system detects an unacceptable fusion percentage, the pacemaker system automatically adjusts the AV delay to a lesser value (col. 3 lines 28-31).

Lu et al. teaches of an automatic ventricular pacing pulse threshold determination utilizing an external programmer, for use with a pacemaker (col. 3 lines 15-19). Lu et al. further teaches that the programmer can be used for the purpose of avoiding fusion

Art Unit: 3762

beats (col. 3 lines 19-22). Lu et al. also teaches of a pacing test that averages capture signals to create a threshold value, which continues to run in a loop (col. 5 lines 15-65).

It would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Kieval et al. and Lu et al. to have a heart stimulator that uses the average amplitude of evoked responses in detecting fusion beats. Kieval et al. and Lu et al. both teach of dual chamber pacing systems that attempt to maximize full capture within the ventricle chambers. It would have been obvious to one having ordinary skill in the art to modify the system as taught by Kieval et al. by implementing an amplitude averaging test as taught by Lu et al., since it would enhance the effectiveness of system's ability to detect fusion beats, as suggested by Kieval et al. (col. 9 lines 24-30). Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to combine the teachings of Kieval et al. and Lu et al. to have the limitations of claims 14-18 and 20-21.

### ***Allowable Subject Matter***

3. Claim 19 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nappholz et al. (U.S. Patent No. 4,702,253), Kieval et al. (U.S. Patent No. 5,507,782), Boute (U.S. Patent No. 5,534,016), Kieval et al. (WO 96/25977).

Art Unit: 3762

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lenwood Faulcon, Jr. whose telephone number is 571-272-6090. The examiner can normally be reached on Monday-Thursday from 9 to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela D. Sykes, can be reached on 571-272-4955. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lenwood Faulcon, Jr.



George Manuel

Primary Examiner